

First Hit

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L4: Entry 6 of 18

File: PGPB

May 30, 2002

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TITLE: System and method for providing requested quality of service in a hybrid network

Detail Description Paragraph:

[0557] The agents process the calls received by communicating with the NIDS (Network Information Distributed Services) Server which are the Validation or the Database Servers with the requisite databases for the various services offered by ISN. Once the call is validated by processing of the call on the server, the agent communicates the status back to the ACD 4a. The ACD 4a in turn dials the terminating number and bridges the incoming call with the terminating number and executes a Release Link Trunk (RLT) for releasing the call all the way back to the switch. The agent also generates a Billing Detail Record (BDR) for billing information. When the call is completed, the switch generates an Operation Services Record (OSR) which is later matched with the corresponding BDR to create total billing information. The addition of new value added services is very simple and new features can be added by additional software and configuration of the different computing systems in the ISP. A typical call flow scenario is explained below.

Detail Description Paragraph:

[0598] The packet classifier 2050 hands off priority tagged and non-tagged packets to the packet scheduler 2060 via the process to process interface 2090. The process to process interface 2090 need not be identical to the process to process interface 2085, but the same selection of techniques is available. The packet scheduler 2060 used a priority queuing technique such as Weighted Fair Queueing to help ensure that prioritized packets (as identified by the packet classifier) receive higher priority and can be placed on an outbound network interface queue ahead of competing best-effort traffic.

Detail Description Paragraph:

[0599] The packet scheduler 2060 hands off packets in prioritized order to any outbound network interface (2010, 2070, 2071 or 2072) via the host processor to peripheral bus 2095. Any number of outbound network interfaces may be used.

Detail Description Paragraph:

[0726] 8. The Resource Management Model 2150 must be able to detect and access the status, utilization and health of resources in a resource pool.

Detail Description Paragraph:

[0853] Time-based Routing--based on capabilities such as a calendar, date/time, and call objects, this feature allows routing to different locations based upon time.

Detail Description Paragraph:

[0864] calendar (to determine what day of the week or month it is),

Detail Description Paragraph:

[1020] Reports of status, metrics, or audit results; and

Detail Description Paragraph:

[1023] The Operations consoles (Ops) 2244 provide the workstation- interface for

the personnel monitoring, administering, and otherwise managing the system. The Ops consoles provide access to the operations interfaces for dbMon 2240, dbAdmin 2238, and dbServer 2236 described above. The Ops consoles 2244 also support the display of dynamic status through icon based maps of the various systems, interfaces, and applications within the Data management domain 2138.

Detail Description Paragraph:

[1066] Provide real-time access to resource status;

Detail Description Paragraph:

[1081] Resource Release: The allocated resource should be put back into the resource pool once the process no longer needs it. Based on the resource type, the process either releases the resource and the resource informs the Resource Manager of its new status, or the process itself informs the Resource Manager that the resource is available. In either case, the Resource Manager will restore the resource to the resource pool.

Detail Description Paragraph:

[1095] Notification: Each MO can report or notify its status to the management entity. This could be viewed as triggers or traps.

Detail Description Paragraph:

[1097] All elements that need to utilize, manipulate or monitor a resource need to treat it as a MO and need to access it through the operations defined above. Concerned elements that need to know the status of a resource need to know how to receive and react to events generated by that resource.

Detail Description Paragraph:

[1125] The GRM 2188 is the entity that has a global view of the resource pools across the network. The GRM gains this global view through the LRMs 2190. All LRMs update the GRM with RP 2272 status and statistics. There are cases where a certain LRM can not allocate a resource because all local resources are busy or because the requested resource belongs to another locale. In such cases, the LRM can consult with the GRM to locate the requested resource across the network.

Detail Description Paragraph:

[1127] As mentioned above, all resources will be treated as managed objects (MO). The RMIB 2274 is the database that contains all the information about all MOs across the network. MO information includes object definition, status, operation, etc. The RMIB is part of the ISP Data Management Model. All LRMs and the GRM can access the RMIB and can have their own view and access privileges of the MO's information through the ISP Data Management Model.

Detail Description Paragraph:

[1138] LRMs 2190 operate on resource pools 2272 where each resource pool contains a set of resource members. In order for the LRM to manage a certain resource, the resource has to inform the LRM of its existence and status. Also, the GRM 2188 needs to be aware of the availability of the resources across the network in order to be able to locate a certain resource. The following registration and de-registration guidelines should be applied on all resources that are to be dynamically managed:

Detail Description Paragraph:

[1141] All resources must report their availability status to their LRM 2190.

Detail Description Paragraph:

[1154] The RMIB 2274 contains all information and status of all managed resources across the network. Each LRM 2190 will have a view of the RMIB 2274 that maps to the RP 2272 it manages. The GRM 2188, on the other hand, has a total view of all resources across the network. This view consists of all LRMs views. The GRM's total

view enables it to locate resources across the network.

Detail Description Paragraph:

[1155] In order for the RMIB 2274 to keep accurate resource information, each LRM 2190 must update the RMIB with the latest resource status. This includes adding resources, removing resources and updating resource states.

Detail Description Paragraph:

[1320] Level 3 support may involve an outside vendor for on-site hardware support for the customer or an internal MCI engineering or support group depending on the nature of the problem. The customer support group will be able to track the status of the customer visit and add the identified problem to both the customer support databases.

Detail Description Paragraph:

[1332] Security is enforced in accordance with MCI's published policies and procedures for Internet security. In addition, security is designed into the WWW Browser and ARU interface options to verify and validate user access to directlineMCI profiles, Message Center, Personal Home Page calendars and Personal Home Page configurations.

Detail Description Paragraph:

[1758] A critical question is how will the directory service know that a called party is no longer where she was last reported (i.e., has "gone away"). The dialed in party might drop off the network in a variety of ways (dialed line dropped, PC hung, Terminal Server crashed) without the ability to explicitly inform the directory service of his change in status. Worse yet, the user might have left the network and another user with a voice application might be assigned the same IP address. (This is OK if the new caller is a registered user with automatic presence notification; the directory service could then detect the duplicate IP address. There may still be some timing problems between distributed parts of the directory service.) Therefore, some scheme must exist for the directory service to determine that the customer is still at the last announced location.

Detail Description Paragraph:

[1844] FIG. 1G is a block diagram showing the software processes involved in the hybrid internet telephony switch 221. Packets received on the internet network interface 296 are transferred to the packet classifier 293. The packet classifier 293 determines whether the packet is a normal IP packet, or is part of a routing protocol (ARP, RARP, RIP, OSPF, BGP, CIDR) or management protocol (ICMP). Routing and management protocol packets are handed off to the Routing Daemon 294. The Routing Daemon 294 maintains routing tables for the use of the packet classifier 293 and packet scheduler 298. Packets classified as normal IP packets are transferred either to the packetizer/depacketizer 292 or to the packet scheduler 298. Packets to be converted to PCM audio are transferred to the packetizer/depacketizer 292. The packetizer/depacketizer takes packet contents and hands them to the codec 291, which converts compressed audio into PCM Audio, then transfers PCM audio to the PSTN Interface 290.

Detail Description Paragraph:

[1845] Normal IP packets to be sent to other internet devices are handed by the packet classifier 293 to the packet scheduler 298, which selects the outgoing network interface for the packet based on the routing tables. The packets are placed upon an outbound packet queue for the selected outgoing network interface, and the packets are transferred to the high speed network interface 296 for delivery across the internet 295.

Detail Description Paragraph:

[1851] A PC that is capable of Internet telephony. Calls are routed into and out of this PC with the assistance of an Internet or Intranet Directory Service that

tracks the logged-in status and current IP address of the VNET user.

Detail Description Paragraph:

[2013] At 1106, when the directory service receives this message, it uses the VNET number (or other ID) to determine if the user associated with the VNET number (or other ID) is "on-line" and to identify the IP address of the location where the computer may be contacted. Any additional information that is available about the computer being contacted (PC11 1052), such as compression algorithms or special hardware or software capabilities, may also be retrieved by the directory service 1031. The directory service 1031 then returns a message to PC12 1051 with status information for PC11 1052, such as whether the computer is "on-line," its IP address if it is available and any other available information about capabilities of PC11 1052. When PC12 1051 receives the response, it determines whether PC11 1052 may be contacted. This determination will be based upon the "on-line" status of PC11 1052, and the additional information about capabilities of PC11 1052. If PC12 1051 receives status information indicating that PC11 1052 may not be contacted, the call flow stops here, otherwise it continues.

Detail Description Paragraph:

[2087] Alarming Server 302. SNMS maintains a Signaling Event List 608 of all SS7 event types that is to be processed. In step 606, SNMS checks the Signaling Event List 608 and if the current event is found in the list, SNMS traps the event for processing. If the event is not found in the list, SNMS discards it.

Detail Description Paragraph:

[2105] When an operator logs on SNMS, the first four steps, 802--808, execute as an initialization. From there, steps 810-838 operate as a continuous loop. The initialization provides each operator with a system state from which to work. In step 802, the current topology is read in and displayed via Graphical User Interface (GUI). Each operator has its own GUI process that is initialized and terminated based upon an operator request. Each GUI process manages its displays independently. Any status change is handled by the individual processes.

Detail Description Paragraph:

[2116] In step 820, if the event is determined to be an operator action, two activities are required. First, in step 822, the operator's GUI display is updated to reflect the status change. Then, in step 824, a status change update is sent to the main process, Process Events 402, so that the status change may be reflected in SNMS records and other GUI processes (for other operators) can receive and react to the status changes.

Detail Description Paragraph:

[2130] In step 836, if the event is determined to be a termination request, then the specific operator's GUI process is terminated in step 838. Otherwise, the next event is received in step 810. Within the Display Alarm process, SNMS provides several unique display windows which support fault isolation, impact assessments, and trouble handling. All of the GUI displays which contain node and circuit symbols are "active" windows within SNMS (i.e. screens are dynamically updated when alarm status of the node or circuit change). All the displays are possible due to the set of MCI topology sources used within SNMS. SNMS has extensive topology processing of SNMS which is used in operator displays.

Detail Description Paragraph:

[2132] This window displays topology and alarm status information for a selected linkset. As network events are received, SNMS recognizes the relationships between endpoints and isolates the fault by reducing generated alarms. This display allows the operator to monitor a linkset as seen from both sides of the signaling circuit (from the perspective of the nodes).

Detail Description Paragraph:

[2154] The SNMS operator can open trouble tickets on signaling alarms. These trouble tickets are opened in MCI's trouble ticketing system. Operators can also display the status of existing trouble tickets.

Detail Description Paragraph:

[2340] also H.225 control channel is for specific procedures as requested by the gatekeeper[4] including call status, bandwidth allocation, etc.;

Detail Description Paragraph:

[2438] While a conference call is in progress, the video operator monitors each of the calls from the Video Operator Terminal 40001. Functions of the video operator include monitoring which calls remain connected, reconnecting disconnected calls, adding new clients to the conference, or joining the conference to inform the clients regarding conference status.

Detail Description Paragraph:

[2499] Operations that affect the state of the Call should call the setState function after the operation has been performed. This function will change the state of the Call by referencing the current state and the operation in the state-transition table. A VOMessage object will be created, with a type of STATUS UPDATE and sent to the application queue. The GUI and any other component that reads the application queue will therefore be informed of the status update.

Detail Description Paragraph:

[2555] Operations that affect the state of the Connection should call the setState function after the operation has been performed. This function will change the state of the Connection by referencing the current state and the operation in the state-transition table. A VOMessage object will be created, with a type of STATUS UPDATE and sent to the application queue. The GUI and any other component that reads the application queue will therefore be informed of the status update.

Detail Description Paragraph:

[2628] Participant Site and initialize a VOPlayer object. This function may be called by the Scheduler.

Detail Description Paragraph:

[2631] Public boolean Start starts the Player to play to the Playback Call. This function may be called by the Scheduler.

Detail Description Paragraph:

[2637] Public boolean Finish stops the Player and Hangup the Playback Call. This function may be called by the Scheduler.

Detail Description Paragraph:

[2644] Operations that affect the state of the Playback Session should call the protected boolean StateSet function after the operation has been performed. This function will change the state of the Playback Session by referencing the current state and the operation in the state-transition table. A VOMessage object will be created, with a type of STATUS UPDATE and sent to the application queue. The GUI and any other component that reads the application queue will therefore be informed of the status update.

Detail Description Paragraph:

[2646] The main function of the Video Operator is to manage conferences. The scheduler system creates the Conference objects, which in turn create a list of Connections (or Participant-MCU Port Site Call pairs). In the special case of a movie being played back to a conference, an extra call is made to an MCU Port and the movie is played back to the MCU in a similar way as a Playback Session. This of course requires an extra MCU Port site to be available, and must be scheduled before the start of the conference.

Detail Description Paragraph:

[2652] public boolean Setup sets up each Connection in the connection list (and the Playback Call if required) by calling each Participant Site and MCU Port Site as appropriate, and perform the Join operations to create the Connections. This function may be called by the Scheduler.

Detail Description Paragraph:

[2655] Public boolean Start starts the Conference. This function may be called by the Scheduler.

Detail Description Paragraph:

[2658] Public boolean End starts tea-rng down the Connections in the conference or issues warnings that the conference will end soon. This function may be called by the Scheduler.

Detail Description Paragraph:

[2661] Public boolean Finish stops the Conference and hangs up all Calls in the Conference. This function may be called by the Scheduler. public StateConference\_e StateGet();

Detail Description Paragraph:

[2666] Operations that affect the state of the Conference should call the protected boolean StateSet function after the operation has been performed. This function will change the state of the Conference by referencing the current state and the operation in the state-transition table. A VoMessage object will be created, with a type of STATUS UPDATE and sent to the application queue. The GUI and any other component that reads the application queue will therefore be informed of the status update.

Detail Description Paragraph:

[2707] Operations that affect the state of the Recorder should call the setState function after the operation has been performed. This function will change the state of the Recorder by referencing the current state and the operation in the state-transition table. A VoMessage object will be created, with a type of STATUS UPDATE and sent to the application queue. The GUI and any other component that reads the application queue will therefore be informed of the status update.

Detail Description Paragraph:

[2725] Operations that affect the state of the Player should call the setstate function after the operation has been performed. This function will change the state of the Player by referencing the current state and the operation in the state-transition table. A VoMessage object will be created, with a type of STATUS UPDATE and sent to the application queue. The GUI and any other component that reads the application queue will therefore be informed of the status update.

Detail Description Paragraph:

[2765] public StateCall\_e CallStatus reports status of the specified Call.

Detail Description Paragraph:

[2768] public StateConnection\_e JoinStatus reports status of the specified Join.

Detail Description Paragraph:

[2822] pConference parameter: pointer to the conference object whose status has changed

Detail Description Paragraph:

[2823] The void OnConferenceStatusChanged function is called when the status of a particular conference has changed.

Detail Description Paragraph:

[2858] PConference parameter: a pointer to the conference object whose status has changed.

Detail Description Paragraph:

[2859] void OnConferenceStatusChanged is called when the conference status has changed so that the UI can be updated accordingly.

Detail Description Paragraph:

[2861] pPbSession parameter: a pointer to the playback session object whose status has changed.

Detail Description Paragraph:

[2862] void OnPbSessionStatusChanged is called when the playback session's status has changed so that the UI can be updated accordingly.

Detail Description Paragraph:

[2864] pconnection parameter: a pointer to the connection object whose status has changed.

Detail Description Paragraph:

[2865] void OnConnStatusChanged is called when a connecion's status has changed so that the UI can be updated accordingly.

Detail Description Paragraph:

[2867] pCall parameter: a pointer to the playback session object whose status has changed.

Detail Description Paragraph:

[2868] void OnCallStatusChanged is called when the status of a call in the current conference/playback session has changed so that the UI can be updated accordingly.

Detail Description Paragraph:

[2870] pPbCall parameter: a pointer to the playback session object whose status has changed.

Detail Description Paragraph:

[2871] void OnPbCallStatusChanged is called when the playback session's status has changed so that the UI can be updated accordingly.

Detail Description Paragraph:

[2873] pconnection parameter: a pointer to the Connection object whose status has changed.

Detail Description Paragraph:

[2874] void DisplayConnectionStatus is called to display a connection's status.

Detail Description Paragraph:

[2876] pCall parameter: pointer to the call object whose status has changed.

Detail Description Paragraph:

[2877] void DisplayCallStatus is called to display a call's status (participant or MCU).

Detail Description Paragraph:

[2878] void DisplayRecordingStatus(); is called to display the recording status if any call in a conference is being recorded.

Detail Description Paragraph:

[2880] void DisplayPlaybackStatus(); is called to display the playback status.

Detail Description Paragraph:

[3021] FIG. 110 shows one embodiment of the Conference window 41203, which is displayed when the operator selects a conference or playback session in the Schedule window 41202. The display of the Conference Window 41203 is dependent on whether a Conference or a Playback Session has been selected from the Schedule Window 41202. Only one conference window is displayed at a time. When a new conference window is opened, the existing one is hidden. While a Conference Window is hidden, the status of the conference and connections are still monitored. FIG. 110 shows a Conference Session 41401. The Conference window 41203 displays the list of conference Participants 41415 and radio buttons to selectively operate on individual connections, including call setup, viewing, playback and recording.

Detail Description Paragraph:

[3022] Information about the conference such as the duration, start time, end time, playback and recording status, and conference type are displayed at the bottom of the window. If the operator double clicks inside the Conference Window 41203 where there is no action associated with the clicking location, the Properties Box [41701 FIG. 113] is displayed with the conference settings.

Detail Description Paragraph:

[3024] The Conference Window 41203 displays the connections in the conference and their connection status 41417, including any free MCU Port slots reserved for a not yet joined connection 41421. Each Connection listing contains a radio button 41422, the participant site name 41423 and status lights 41418-41420. The status of the two calls and the join are monitored and displayed with the site name in the Conference window 41203. The status squares 41418-41420 are colored boxes, with different colors representing different call statuses (e.g., no call, call in progress, active call, or active call that has been disconnected).

Detail Description Paragraph:

[3026] The color of the arrows 41424 represents the status of each call. The color of the arrows is also duplicated in the status lights 41418-41420 in the list of connections.

Detail Description Paragraph:

[3068] Access the subscriber's calendar to schedule a meeting.

Detail Description Paragraph:

[3079] Subscribers are responsible for routinely checking their calendars and approving "(A)" or deleting requested appointments, and initiating the necessary follow-up communications to the requesting party. Approved appointments will be prefaced by "(A)".

Detail Description Paragraph:

[3081] Calendar access from the Personal Home Page is designed to support two-levels of security:

Detail Description Paragraph:

[3090] Current month plus past six months of historical calendar appointments

Detail Description Paragraph:

[3091] Current month plus next twelve months of future calendar appointments.

Detail Description Paragraph:

[3092] A subscriber is provided the option to download the contents of the months appointments that are scheduled to be overwritten in the database. The calendar information that will be downloaded to the subscriber is in a comma delimited or DBF format and capable of being imported into Microsoft Schedule+, ACT or Ascend.

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Detail Description Paragraph:

[3097] How to Access and update a subscriber's Calendar;

Detail Description Paragraph:

[3199] Personal Home Page Profile Management provides subscribers the ability to customize their Personal Home Page and define how guests can communicate with them (email or text-based pager). In addition, Profile Management also enables subscribers to control guest access to their calendar. Specifically, the subscriber is able to:

Detail Description Paragraph:

[3201] Establish and maintain a contact information (i.e., address information());

Detail Description Paragraph:

[3202] Establish and maintain a personal calendar;

Detail Description Paragraph:

[3203] Enable or disable guest access to paging, email or calendar;

Detail Description Paragraph:

[3204] Control guest access to calendar by defining PINs for standard or privileged access; and

Detail Description Paragraph:

[3206] Upon creation of the Personal Home Page, the contact information is populated with the subscriber's delivery address information. The subscriber has the capability to update that address information contained within the contact information.

Detail Description Paragraph:

[3380] FIG. 43 shows the relationships between the major system components. The OE system 508 generates subscriber profiles which are downloaded via DDS 506 to the ARU 502 and the Voice Fax Platform (VFP) 504. BDRs generated by the ARU 502 and VFP 504 are fed to the billing systems 510 via DDS 506. The ARU 502 handles all inbound calls. If faxtone is detected, or if a voicemail/faxmail feature is requested, the call is extended from the ARU 502 to the VFP 504. For mailbox status (e.g. "You have three messages"), the ARU 502 queries the VFP 504 for status and plays the prompt.

Detail Description Paragraph:

[3479] Bastion host 5110 runs a File Transfer Protocol (FTP) server daemon that implements a modified FTP protocol based on release 2.2 of the wu-ftp daemon, from Washington University. Except as noted herein, the FTP protocol is compliant with RFC 765: File Transfer Protocol, by J. Postel (June 1980) ("RFC 765"), the disclosure of which is hereby incorporated by reference. RFC 765 describes a known protocol for transmission of files using a TCP/IP-based telnet connection, in which the server responds to user-initiated commands to send or receive files, or to provide status information. The DMZ FTP implementation excludes the send command which is used to send a file from a remote user to an FTP server, and any other FTP command that transfers files to the FTP host. A restricted subset of commands including the get (or recv), help, is, and quit commands are supported.

Detail Description Paragraph:

[3509] In step 5446, the VFP completion system checks the VFP response and writes the appropriate BDR term status record. The response indicates the acknowledgment from the TI platform. A response of '00' indicates success, and the VFP completion processor writes a BDR\_STAT\_NORMAL indicator. A response of '01' indicates the VFP did not receive the key to the addressed mailbox, and the VFP completion processor writes a BDR\_STAT\_DLINE\_T1\_NO\_DIGITS indicator. A response of '02' indicates that the VFP timed out while collecting the key, and the VFP completion processor writes

a BDR\_STAT\_DLINE\_T1\_FORMAT indicator. A response of "03" indicates that the addressed mailbox was not found, and the VFP completion processor writes a BDR\_STAT\_DLINE\_T1\_MAILBOX indicator. If no response was received, a BDR\_STAT\_DLINE\_T1\_NO\_RSP indicator is written. Following the BDR indicator, control proceeds to step 5480 as shown in FIG. 54E.

Detail Description Paragraph:

[3514] If a number was returned, the addressed pagers PIN is obtained from the database in step 5530. The pager termination processor constructs a pager dial string comprising the pager PIN retrieved in step 5530 and the callback number obtained in step 5510. In step 5532, the pager termination processor obtains the pager's type and routing information is obtained from the database. In step 5534, the pager termination processor checks the configuration file to obtain a pager parse string that defines the parameters for pagers of the type addressed. In step 5536, the pager termination processor checks to see whether the requested pager parse string was successfully retrieved. If not, in step 5538 the pager termination processor indicates that the page could not be performed by setting the BDR term status to BDR\_STAT\_PAGER\_NOT\_FOUND, and in step 5540 provides the caller with a menu to select another service.

Detail Description Paragraph:

[3515] If the pager parse string was successfully retrieved, the pager termination processor proceeds to step 5550 as shown in FIG. 55A. In step 5550, the pager termination processor calls the pager subsystem, passing to it the route number, the dial string, and the pager parse string. In step 5552, the pager termination processor checks the return code from the pager subsystem. If the page was successfully completed, the pager termination processor, in step 5554 plays a digitally prerecorded message to the caller, informing the caller that the page has been successfully sent. In step 5556 the enEndCallStatus field is updated to mark the pager call complete. In step 5558, the transfer status is marked as blank, indicating that there is no need to transfer the caller, and in step 5560, the pager termination processor presents the user with a menu permitting it to select another service or to end the call.

Detail Description Paragraph:

[3516] If the page was not successfully completed as shown in FIG. 55B, the pager termination processor checks in step 5570 whether the caller had disconnected during the page attempt. If the caller had disconnected, the pager termination processor in step 5575 checks to see whether the page had been sent prior to the disconnection. If the page was sent despite the disconnect, the pager termination processor in step 5580 indicates a normal ending to the page request in step 5580 and sets the status as complete in step 5582. In step 5583, the pager termination processor presents the user with a menu permitting it to select another service or to end the call.

Detail Description Paragraph:

[3519] In step 5592 the pager termination processor posts the error code selected in step 5572 to the BDR. In step 5583, the pager termination processor plays a prerecorded digital sound file indicating that the page could not be sent. In step 5595 the enEndCallStatus field is updated to mark the pager call complete. In step 5597, the transfer status is marked as blank, indicating that there is no need to transfer the caller, and in step 5599, the pager termination processor presents the user with a menu permitting it to select another service or to end the call.

Detail Description Paragraph:

[3552] Status message

Detail Description Paragraph:

[3564] Status messages

Detail Description Paragraph:

[3565] Depending on the choices made by the user, the following status messages are provided to the user for each selection identified below:

Detail Description Paragraph:

[3587] Status messages

Detail Description Paragraph:

[3598] Status messages

Detail Description Paragraph:

[3609] Status messages

Detail Description Paragraph:

[3615] Status messages

Detail Description Paragraph:

[3624] Status messages

Detail Description Paragraph:

[3628] Status messages

Detail Description Paragraph:

[3666] When a subscriber accesses the user menu, the application provides mailbox status information, including the number of new voice or fax messages, and if his mailbox is full. The application launches a query to the VFP database to obtain this information.

Detail Description Paragraph:

[3693] FIG. 69P depicts the main menu for the ARU User Call routine for processing a call from a subscriber. This routine is performed as Step 69052 in the ARU Guest Menu routine as depicted in FIG. 69D, if the caller enters a valid passcode. After playing an introductory welcome greeting, the ARU checks to see if the subscriber's mailbox is full. If the mailbox is full, the ARU plays a message informing the subscriber of this condition in Step 69300. After playing this warning, or if the mailbox is not full, the ARU in Step 69302 plays a status recording informing the subscriber of the number of new voicemail messages and fax messages stored for the subscriber.

Detail Description Paragraph:

[3714] If the subscriber selects an option to activate or deactivate a pager, the ARU in Step 69538 plays a recorded message indicating the new status of the pager notification option. In Step 69540, the ARU toggles the current status of the pager option (i.e., enables the option if it is currently disabled, or disables the option on if it is currently enabled). After the toggle, the ARU returns to Step 69530.

Detail Description Paragraph:

[3716] If the subscriber selects an option in Step 69530 to activate or deactivate his or her account, the ARU in Step 69550 plays a recorded message indicating the new account status. In Step 69552, the ARU toggles the current status of the account option (i.e., activates the option if it is currently deactivated, or deactivates the option on if it is currently activated). After the toggle, the ARU returns to Step 69530.

Detail Description Paragraph:

[3721] FIG. 69AB depicts the ARU Validate Guest Entry routine. This routine is used by the ARU to determine whether an attempt by a guest to use the VFP guest facilities is valid. The ARIJ permits up to 3 attempts for the guest to enter his or her identification information. For the first two invalid attempts, the ARU, in

Step 69610, returns a status that the guest entry was invalid. On a third attempt, the ARU in Step 69615 performs the ARU Find-Me routine of FIGS. 69E and 69F. If a guest entry was received, the ARU in Step 69617 checks to see whether a guest entry was one of the available choices on the applicable menu. If not, the ARU in Step 69620 plays a recorded message that the guest entry option is not available. If this is the third invalid entry, the ARU in Step 69624 performs the ARU Guest Xfer to MTOC routine of FIG. 69H. If it is the first or second invalid entry, the routine in Step 69622 returns with an indication that the guest entry was invalid. If the ARU determines in Step 69617 that the guest entry was a proper menu option, it returns a valid status in Step 69626.

Detail Description Paragraph:

[3722] FIG. 69AC depicts the ARU Validate User Entry routine, which is used by the ARU to validate an attempt by a subscriber to use subscriber services of the VFP. If no user entry is received, the ARU in Step 69630 plays a diagnostic message that no entry was received. If an entry was received, the ARU checks in Step 69634 whether the menu to which the subscriber was responding includes an option for user entry. If so, the ARU returns a valid status in Step 69636. If not, the ARU in Step 69638 plays a diagnostic message that that option is not available. If either no entry was received or the entry was not valid for the menu, the ARU in Step 69632 checks to see whether this is the third failure to specify subscriber information. If so, the ARU in Step 69640 performs the ARU User Xfer to Customer Service routine of FIG. 69AI. If this is the first or second failed entry, the ARU returns an invalid status in Step 69642.

Detail Description Paragraph:

[3723] FIG. 69AD depicts the ARU Validate Passcode Entry routine, which is used by the ARU to authenticate a passcode entered by a subscriber. In Step 69650, the ARU checks to see whether the passcode entered matches the passcode for the specific subscriber. If so, in Step 69652 the ARU returns with a valid status. If the entry is not valid, the ARU in Step 69654 plays a recorded message that the entry is not valid. The ARU allows two attempts to specify a valid passcode. In Step 69656, the ARU checks to see whether this is the second attempt to enter a passcode. If this is the second attempt, the ARU in Step 69660 performs the ARU User Xfer to Customer Service routine, which is described above with respect to FIG. 69AI. If this is not the second failure, the ARU in Step 69658 prompts the subscriber to enter a valid passcode and returns to Step 69650.

Detail Description Paragraph:

[3725] If a valid user entry was received, the ARU checks to see whether a telephone number entered begins with "011." If so, the ARU in Step 69680 performs the ARU Validate International Completion routine of FIG. 69AF. In Step 69682, the ARU checks to see whether the domestic terms flag has been set by the subscriber. If not, the ARU in Step 69684 plays a diagnostic message that domestic calls are not available, and proceeds to Step 69671. In Step 69686, the ARU checks to see whether a ten-digit number was entered, and in Step 69688 checks to see whether a valid MPA-Nxx number was entered. If number entered was not a ten-digit valid MPA-Nxx number, the ARU in Step 69690 plays a diagnostic message and proceeds to Step 69671. In Step 69690, the ARU checks to see whether NADP blocking is effective for this subscriber, and in Step 69692, the ARU checks to see whether 976 blocking is effective for this subscriber. If either blocking is effective, the ARU in Step 69694 plays a diagnostic message indicating that calls to the addressed number are blocked and proceeds to Step 69671. Otherwise, the ARU in Step 69696 returns with a status that the number entered is valid.

Detail Description Paragraph:

[3726] FIG. 69AF depicts the ARU Validate International Completion routine. In Step 69700, the ARU checks to see whether the subscriber is configured to place international calls. If not, the ARU plays a diagnostic message in Step 69702. In Step 69704, the ARU checks to see whether the number entered is syntactically valid

as an international dialing number. If not, the ARU in Step 69706 plays a diagnostic message. In Step 69708, the ARU checks to see whether Cset blocking will block the specified number. If so, the ARU in Step 69710 plays a diagnostic message. If no error conditions were found, the ARU returns a valid status in Step 69712. If errors were found the ARU in Step 69713 returns an invalid status. If three failed attempts have been made to enter a number, the ARU plays a status message in Step 69714 and transfers the subscriber to the operator in Step 69716.

Detail Description Paragraph:

[3728] If a valid user entry was received, the ARU checks to see whether a telephone number entered begins with "011." If so, the ARU in Step 69730 performs the ARU Validate International Completion routine of FIG. 69AF. In Step 69732, the ARU checks to see whether the domestic terms flag has been set by the subscriber. If not, the ARU in Step 69734 plays a diagnostic message that domestic calls are not available, and proceeds to Step 69721. In Step 69736, the ARU checks to see whether a ten-digit number was entered, and in Step 69738 checks to see whether a valid MPA-Nxx number was entered. If neither was entered, the ARU in Step 69740 plays a diagnostic message and proceeds to Step 69721. In Step 69750, the ARU checks to see whether 976 blocking is effective for this subscriber. If so, the ARU in Step 69754 plays a diagnostic message indicating that calls to the addressed number are blocked and proceeds to Step 69721. Otherwise, the ARU in Step 69756 returns with a status that the number entered is valid.

Detail Description Paragraph:

[3729] FIG. 69AH depicts the ARU Validate International Programming routine used by the ARU to assure that only a valid telephone number is stored for use by call routing. In Step 69760, the ARU checks to see whether the subscriber is configured to place international calls. If not, the ARU plays a diagnostic message in Step 69762. In Step 69764, the ARU checks to see whether the number entered is syntactically valid as an international dialing number. If not, the ARU in Step 69766 plays a diagnostic message. In Step 69768, the ARU checks to see whether Cset blocking will block the specified number. If so, the ARU in Step 69770 plays a diagnostic message. If no error conditions were found, the ARU returns a valid status in Step 69772. If errors were found, the ARU in Step 69773 returns an invalid status. If three failed attempts have been made to enter a number, the ARU plays a status message in Step 69774 and transfers the subscriber to the operator in Step 69776.

Detail Description Paragraph:

[3745] FIG. 70E depicts the Console Xfer to Voice/Fax Guest Voice routine, which connects the caller to the VFP to leave a voice mail message. The console plays a status message in Step 70140 and checks to see whether the subscriber's mailbox is full in Step 70142. If the mailbox is full, the console plays a diagnostic message in Step 70144 and returns. If the mailbox is not full, the console attempts to acquire a handshake with the VFP. If the handshake is successful, the console connects the call in Step 70146. If unsuccessful, the console plays an error message in Step 70148 and returns.

Detail Description Paragraph:

[3746] FIG. 70F depicts the Console Xfer to Voice/Fax Guest Fax w/or w/out Annotation routine, which connects the caller to the VFP to transmit a fax. The console plays a status message in Step 70150 and checks to see whether the subscriber's mailbox is full in Step 70152. If the mailbox is full, the console plays a diagnostic message in Step 70154 and returns. If the mailbox is not full, the console attempts to acquire a handshake with the VFP. If the handshake is successful, the console connects the call in Step 70156. If unsuccessful, the console plays an error message in Step 70158 and returns. The routines of FIGS. 70E and 70F are similar except for the service requested of the VFP and the contents of the error message played to the caller.

Detail Description Paragraph:

[3747] FIG. 70G depicts the Console Send Page routine, which initiates a call to the subscriber's paging service. In Step 70160 the console prompts the caller to provide the telephone number that should be provided to the addressed pager. In Step 70162, the console plays a status recording to the caller, asking him or her to hold while the page is sent. If the page is successfully sent, the console in Step 70164 plays a status message indicating that the page has been sent and in Step 70165 disconnects the call. If the call to the paging service is unsuccessful, the console in Step 70166 plays a message indicating the failure and returns, enabling the console to present the caller with additional options.

Detail Description Paragraph:

[3753] FIG. 70L depicts the Console User Call routine. In Step 70240, the console checks to see whether the subscriber's mailbox is full. If so, in Step 70242, the console plays a warning message to the subscriber. Regardless of whether the mailbox is full, the console in Step 70244 plays a status message for the subscriber informing the subscriber of the number of voicemail messages and faxes in the mailbox. On Step 70246, the console provides a menu of options to the subscriber. In the example shown, option '1' corresponds to a request to send or retrieve mail; '2' corresponds to a request to place a call; and '3' corresponds to a request to exit. If the subscriber selects the option to send or retrieve mail, the console in Step 70248 plays a hold message and then performs the Console Xfer to Voice/Fax Subscriber Send/Retrieve routine of FIG. 70M. After that routine has completed, the console again returns to Step 70246. If the subscriber selects an option to place a call, the console performs the Console Outbound Calling routine, which is described below with respect to FIG. 70N. If the subscriber selects the Exit Programming option, the console disconnects the call.

Detail Description Paragraph:

[3756] 70O depicts the Console Validate Guest Entry routine. This routine is used by the console to determine whether an attempt by a guest to use the VFP guest facilities is valid. The console in Step 70270 checks to see whether a guest entry was one of the available choices on the applicable menu. If not, the entry is not accepted, and the console maintains the same menu, as shown in Step 70272. If guest entry is a proper menu option, the console returns a valid status in Step 70274.

Detail Description Paragraph:

[3757] FIG. 70P depicts the Console Validate User Entry routine, which is used by the console to validate an attempt by a subscriber to use subscriber services of the VFP. The console in Step 70280 checks to see whether user entry is one of the available choices on the applicable menu. If not, the entry is not accepted, and the console maintains the same menu, as shown in Step 70282. If user entry is a proper menu option, the console returns a valid status in Step 70284.

Detail Description Paragraph:

[3758] FIG. 70Q depicts the Console Validate Completion routine, used by the console to validate the entry of a valid telephone number. In Step 70292, the console checks to see whether the domestic terms flag has been set by the subscriber. If not, the console in Step 70294 plays a diagnostic message that domestic calls are not available, and in Step 70310 returns with an indication that the number provided is not valid. In Step 70296, the console checks to see whether a ten-digit number was provided, and in Step 70298 checks to see whether a valid MPA-Nxx number was provided. If the number provided was not a ten-digit valid MPA-Nxx number, the console in Step 70302 plays a diagnostic message and in Step 70310 returns with an indication that the number provided is not valid. In Step 70304, the console checks to see whether NADP blocking is effective for this subscriber, and in Step 70306, checks to see whether 976 blocking is effective for this subscriber. If either form of blocking is effective, the console in Step 70308 plays a diagnostic message indicating that calls to the addressed number are blocked and in Step 70310 returns with an indication that the number provided is

not valid. Otherwise, the console in Step 70312 returns with a status that the number provided is valid.

Detail Description Paragraph:

[3760] In Step 70330, the console checks to see whether Cset blocking will block the specified number. If so, the console in Step 70332 plays a diagnostic message. If no error conditions were found, the console returns a valid status in Step 70334.

Detail Description Paragraph:

[3839] The user has the ability to enable/disable the presentation of pager as a guest menu option. When pager is disabled, it is not presented at the Guest Menu, nor is it presented to the user in programming Override or Alternate Routing. Guest Option of Voicemail or Pager also is removed from Alternate Routing programming choices. If Override Routing is set to Pager, and pager has been turned off, the call is handled as if Override were not populated. If Alternate Routing is set to Pager, and pager has been turned off, the caller is routed to voicemail, if he has it, or the closing message is presented. These are the default treatments for Override and Alternate Routing. The Pager On/Off flag (State bit 13) is where the pager's enabled/disabled status is stored.

Detail Description Paragraph:

[3840] In addition to the pager enable/disable ability, the user can define pager notification options, as described in the Voicemail/sFaxmail section of this description. The VFP performs pages for notification of new voice and fax messages, and supports those pager types supported by the ISN. The status Pager On/Off flag has no impact on pager notification; the user is required to set Pager Notification to No Notification, in order to receive no notification of new messages.

Detail Description Paragraph:

[3855] The status of a reoriginating caller is derived from the value in the Val Stat field of the BDR of the original call. The following table defines possible values for that field and what each value indicates:

Detail Description Paragraph:

[3914] FIG. 71 depicts a typical customer configuration of a hybrid network for carrying private network services, such as VNET, Vision or other media while providing local dial access, private dialing plans over shared or dedicated access. The combination of the FDDI LAN 10201, the transaction servers 10205, and the communication servers 10215 and 10225 are collectively referred to as a DAP. A local area network such as Fiber Distributed Data Interface (FDDI) LAN 10201 is used to connect various communication devices. In the configuration depicted, Transaction Server (TS) 10205 is connected to the LAN 10201. Telephony switches such as switch 10210 and switch 10220 are connected to LAN 10201 through Communication Servers (CS) 10215 and 10225, respectively. In the example shown, CS 10225 communicates with the switches utilizing a protocol termed Application Data Field (ADF) 10245. Gateway 10230 connects to the LAN 10201 and provides communication between the Customer Access Processor (CAP). The CAP 10235 is typically a microprocessor such as the Intel Pentium, RISC or Motorola 68xxx family. The DAP would send a transaction query to the CAP. The CAP performs a database lookup to return routing instruction based upon, for example, the status of how many operators are available at a particular customer service center. The CAP returns a response that indicates how a call should be routed based upon that database lookup. The DAP uses that information basically as an extension of its own database. The DAP would then interpret the information received from the CAP 10235 and translate it into routing information that the switch requires to route the call to where the customer required.

Detail Description Table CWU:

4 2. Descriptions of Block Elements Element Description Ph1 Traditional analog

phone connected to a Local Exchange Carrier. For the purposes of these VNET scenarios, the phone is capable of making VNET calls, local calls or DDD calls. In some scenarios the VNET access may be done through The customer dials a 700 number with the last seven digits being the destination VNET number for the call. The LEC will know that the phone is picked to MCI and route the call to the MCI switch. The MCI switch will strip off the "700", perform an ANI lookup to identify the customer ID and perform VNET routing using the VNET number and customer ID. The customer dials an 800 number and is prompted to enter their Social Security number (or other unique id) and a VNET number. The switch passes this information to the DAP which does the VNET translation. PC1 Personal computer that has the capability to dial in to an Internet PC2 service provider or a corporate intranet for the purpose of making or receiving Internet telephony calls. The following access methods might be used for this PC Internet service provider The PC dials an 800 number (or any other dial plan) associated with the service provider and is routed via normal routing to the modem bank for that provider. The user of the PC then follows normal log-on procedures to connect to the Internet. Corporate Intranet The PC dials an 800 number (or any other dial plan) associated with the corporate Intranet and is routed via normal routing to the modem bank for that Intranet. The user of the PC then follows normal log-on procedures to connect to the Intranet. LEC SF1 Switching fabric for a local exchange carrier. This fabric provides the connection between Ph1/PC1/PC2 and MCI's telephone network. It also provides local access to customer PBXs. MCI SF1 Switching fabric for MCI (or for the purpose of patenting, any MCI SF2 telephony service provider). These SFs are capable of performing traditional switching capabilities for MCI's network. They are able to make use of advanced routing capabilities such as those found in MCI's NCS (Network Control System). NCS The NCS provides enhanced routing services for MCI. Some of the products that are supported on this platform are: 800, EVS, Universal Freephone, Plus Freephone, Inbound International, SAC(ISAC) Codes, Paid 800, 8XX/Vnet Meet Me Conference Call, 900, 700, PCS, Vnet, Remote Access to Vnet, Vnet Phone Home, CVNS, Vnet Card, MCI Card (950 Cards), Credit Card and GETS Card. In support of the existing VNET services, the DAP provides private dialing plan capabilities to Vnet customers to give them a virtual private network. The DAP supports digit translation, origination screening, supplemental code screening, 800 remote access, and some special features such as network call redirect for this service. To support the call scenarios in this document, the NCS also has the capability to make a data query to directory services in order to route calls to PCs. Dir Svc 1 Internet Directory Services. The directory service performs: Dir Svc 2 Call routing - As calls are made to subscribers using Internet telephony services from MCI, the directory service must be queried to determine where the call should terminate. This may be done based upon factors such as the logged-in status of the subscriber, service subscriptions identifying the subscriber as a PC or phone only user preferred routing choices such as "route to my PC always if I am logged in", or "route to my PC from 8-5 on weekdays, phone all other times", etc. Customer profile management - The directory service must maintain a profile for each subscriber to be able to match VNET numbers to the service subscription and current state of subscribers. Service authorization - As subscribers connect their PCs to an IP telephony service, they must be authorized for use of the service and may be given security tokens or encryption keys to ensure access to the service. This authorization responsibility might also place restrictions upon the types of service a user might be able to access, or introduce range privileges restricting the ability of the subscriber to place certain types of calls. ITG 1 Internet Telephony Gateway - The Internet Telephony Gateway ITG 2 provides a path through which voice calls may be bridged between an IP network and a traditional telephone network. To make voice calls from an IP network to the PSTN, a PC software package is used to establish a connection with the ITG and request that the ITG dial out on the PSTN on behalf of the PC user. Once the ITG makes the connection through the voice network to the destination number, the ITG provides services to convert the IP packetized voice from the PC to voice over the PSTN. Similarly, the ITG will take the voice from the PSTN and convert it to IP packetized voice for the PC. To make voice calls from the PSTN to the IP network, a call will be routed to the ITG

via PSTN routing mechanisms. Once the call arrives, the ITG identifies the IP address for the destination of the call, and establishes an IP telephony session with that destination. Once the connection has been established, the ITG provides conversion services between IP packetized voice and PCM voice. ITG 3 These ITGs act in a similar capacity as the ITGs connected to the ITG 4 PSTN, but these ITGs also provide a connection between the corporate Intranet and the PBX. IAD 1 The Internet access device provides general dial-up Internet access IAD 2 from a user's PC to the Internet. This method of connecting to the Internet may be used for Internet telephony, but it may also be simply used for Internet access. When this device is used for Internet telephony, it behaves differently than the ITG. Although the IAD is connected to the PSTN, the information traveling over that interface is not POM voice, it is IP data packets. In the case of telephony over the IAD, the IP data packets happen to be voice packets, but the IAD has no visibility into those packets and cannot distinguish a voice packet from a data packet. The IAD can be thought of as a modem pool that provides access to the Internet. PBX 1 Private Branch Exchange - This is customer premise equipment PBX 2 that provides connection between phones that are geographically co-located. The PBX also provides a method from those phones to make outgoing calls from the site onto the PSTN. Most PBXs have connections to the LEG for local calls, and a DAL connection to another service provider for VNET type calls. These PBXs also show a connection to a Directory Service for assistance with call routing. This capability does not exist in today's PBXs, but in the VNET call flows for this document, a possible interaction between the PBX and the Directory Service is shown. These PBXs also show a connection to an ITG. These ITGs provide the bridging service between a customer's Intranet and the traditional voice capabilities of the PBX. Ph11 These are traditional PBX connected phones. Ph 12 Ph 21 Ph 22 PC 11 These are customer premises PCs that are connected to customer PC 12 Intranets. For the purposes of these call flows, the PCs have PC 21 Internet Telephony software that allow the user to make or receive PC 22 calls.

#### Detail Description Table CWU:

```
11 (1) Data Types enum senderType_e { SENDER_INTERNAL, SENDER_SCHEDULE,
SENDER_CONFERENCE, SENDER_CONNECTION, SENDER_CALL, SENDER_TIMER }; enum
messageType_e { MSG_DEBUG, MSG_ERROR, MSG_WARNING, MSG_APPLICATION_ERROR, MSG
_STATE_UPDATE }; Delivery type flags: DELIVER_MESSAGE_QUEUE, DELIVER_LOG_FILE,
DELIVER_MODAL_DIALOG, DELIVER_MODELESS_DIALOG, DELIVER_CONSOLEOUTBUT (2) Attributes
Access Level Type Name Description static VOOperator* m_pVO video operator pointer
static VOSchedule* m_pSchedule scheduler pointer static VOCallObjMgr* m_pCallOM
Call Object Manager pointer static VOConnectionObjMgr* m_pConnOM Connection Object
Manager pointer static VOCallSystem* m_pCallSys Call System Interface pointer
```

#### Detail Description Table CWU:

71 NOT TO REQUIREMENT MEAN VALUE EXCEED VALUE Retrieve and Personal Home 20 sec 30  
sec Pages. Time is measured from when the user selects the Bookmark until the  
Status Bar reads, "Document: Done". Retrieve WWW screens other 5 sec (text only) 15  
sec (text only) than Home Pages. Time is or or measured from when the user 15 sec  
30 sec selects the hypertext link or selects the hypertext link or (scheduling  
(scheduling tab until the Status Bar reads, screen) screen) "Document: Done". Start  
playing a voicemail 10 sec 15 sec message. Time is measured from when the users  
selects the voicemail message in the Message Center until the streaming audio file  
starts playing on the user's workstation.

#### Detail Description Table CWU:

88 Guest termination to Inactive Account Billable Call? N Bill Type: 15 OR 115 Call  
Type: 146 Terminating Number: Blank Billing Number Account number\* + 0000  
Originating Number Originating ANI Termination Method 02 Termination Status 00\*\*  
Miscellaneous 1 Account number Miscellaneous 2 Miscellaneous 3 OSR-Only Flag N OSR  
Entry Code 08 SCAI OIR Flag n/a SCAI BNOA n/a Guest Disconnect - call completion  
Guest Disconnect - call completion (Console) Billable Call N Billable Call N Bill  
Type: 15 OR 115 Bill Type: 15 OR 115 Call Type: 140 OR 142 Call Type: 179 OR 336

Terminating Blank Terminating Blank Number: Number: Billing Number Account Billing  
Number Account number + 0000 number + 0000 Originating Originating ANI Originating  
Originating ANI Number Number Termination 01 Termination 01 Method Method  
Termination 262 Termination 262 Status Status Miscellaneous Account number  
Miscellaneous 1 Account number 1 Miscellaneous Miscellaneous 2 2 Miscellaneous  
Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N OSR Entry 08 OSR Entry Code 08  
Code SCAI BNOA n/a SCAI BNOA n/a A Guest Disconnect BDR may have a different Call  
Type, depending on at what point in the call flow the disconnect came Guest  
Disconnect - voicemail Guest Disconnect - voicemail completion completion (Console)  
Billable Call N Billable Call N Bill Type: 15 OR 115 Bill Type: 15 OR 115 Call  
Type: 141 Call Type: 337 Terminating Blank Terminating Blank Number: Number:  
Billing Number Account Billing Number Account number + 0000 number + 0000  
Originating Originating ANI Originating Originating ANI Number Number Termination  
01 Termination 01 Method Method Termination 262 Termination 262 Status Status  
Miscellaneous Account number Miscellaneous 1 Account number 1 Miscellaneous  
Miscellaneous 2 2 Miscellaneous Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N  
OSR Entry 08 OSR Entry Code 08 Code SCAI OIR Flag n/a SCAI OIR Flag n/a SCAI BNOA  
n/a SCAI BNOA n/a Guest Disconnect - Guest Disconnect - fax completion fax  
completion (Console) Billable Call N Billable Call N Bill Type: 15 OR 115 Bill  
Type: 15 OR 115 Call Type: 145 Call Type: 339 Terminating Blank Terminating Blank  
Number: Number: Billing Number Account Billing Number Account number + 0000 number  
+ 0000 Originating Originating ANI Originating Originating ANI Number Number  
Termination 01 Termination 01 Method Method Termination 262 Termination 262 Status Status  
Status Status Miscellaneous Miscellaneous 1 Account number 1 Miscellaneous Miscellaneous 2  
2 Miscellaneous Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N OSR Entry 08 OSR  
Entry Code 08 Code SCAI OIR Flag n/a SCAI OIR Flag n/a SCAI BNOA n/a SCAI BNOA n/a  
Guest Disconnect - pager Guest Disconnect - call completion completion (Console)  
Billable Call N Billable Call N Bill Type: 15 OR 115 Bill Type: 15 OR 115 Call  
Type: 140 OR 142 Call Type: 179 OR 336 Terminating Blank Terminating Blank Number:  
Number: Billing Number Account Billing Number Account number + 0000 number + 0000  
Originating Originating ANI Originating Originating ANI Number Number Termination  
01 Termination 01 Method Method Termination 262 Termination 262 Status Status  
Miscellaneous Account number Miscellaneous 1 Account number 1 Miscellaneous  
Miscellaneous 2 2 Miscellaneous Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N  
OSR Entry 08 OSR Entry Code 08 Code SCAI OIR Flag n/a SCAI OIR Flag n/a SCAI BNOA  
n/a SCAI BNOA n/a Guest termination to Fax - Mailbox Guest termination to Fax -  
Mailbox full full Console Billable Call? N Billable Call? N Bill Type: 15 OR 115  
Bill Type: 15 OR 115 Call Type: 145 Call Type: 339 Terminating Fax Terminating Fax  
Number: Number: Routing Routing Number Number Billing Number Account Billing Number  
Account number + 0000 number + 0000 Originating Originating ANI Originating  
Originating ANI Number Number Termination 03 Termination 03 Method Method  
Termination 257 Termination 257 Status Status Miscellaneous Account number  
Miscellaneous 1 Account number 1 Miscellaneous Miscellaneous 2 2 Miscellaneous  
Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N OSR Entry 08 OSR Entry Code 08  
Code SCAI OIR Flag N SCAI OIR Flag N SCAI BNOA 7C SCAI BNOA 7C Guest termination to  
Fax - Normal Guest termination to Fax - Normal (Console) Billable Call? Y -  
Match/Merge Billable Call? Y - Match/Merge Bill Type: 15 OR 115 Bill Type: 15 OR  
115 Call Type: 145 Call Type: 339 Terminating Fax Terminating Fax Number: Number:  
Routing Routing Number Number Billing Number Account Billing Number Account number  
+ 0000 number + 0000 Originating Originating ANI Originating Originating ANI Number  
Number Termination 00 Termination 00 Method Method Termination 257 Termination 257  
Status Status Miscellaneous Account number Miscellaneous 1 Account number 1  
Miscellaneous Miscellaneous 2 2 Miscellaneous Miscellaneous 3 3 OSR-Only Flag N  
OSR-Only Flag N OSR Entry 90 OSR Entry Code 90 Code SCAI OIR Flag N SCAI OIR Flag N  
SCAI BNOA 7C SCAI BNOA 7C Guest Termination to Voicemail Guest Termination to  
Voicemail (Console) Billable Call? Y - Match/Merge Billable Call? Y - Match/Merge  
Bill Type: 15 OR 115 Bill Type: 15 OR 115 Call Type: 141 Call Type: 337 Terminating  
Fax Terminating Fax Number: Number: Routing Routing Number Number Billing Number  
Account Billing Number Account number + 0000 number + 0000 Originating Originating  
ANI Originating Originating ANI Number Number Termination 00 Termination 00

Detail Description Table CWU:

Method Method Termination 257 Termination 257 Status Status Miscellaneous Account number Miscellaneous 1 Account number 1 Miscellaneous Miscellaneous 2 2 Miscellaneous Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N OSR Entry 90 OSR Entry Code 90 Code SCAI OIR Flag N SCAI OIR Flag N SCAI BNOA 7C SCAI BNOA 7C Guest Term to Closing Message Guest Term to Closing Message (Console) Billable Call? N Billable Call? N Bill Type: 15 OR 115 Bill Type: 15 OR 115 Call Type: 140 OR 142 Call Type: 179 OR 336 Terminating Blank Terminating Blank Number: Number: Billing Number Account Billing Number Account number + 0000 number + 0000 Originating Originating ANI Originating Originating ANI Number Number Termination 02 Termination 02 Method Method Termination 00 Termination 00 Status Status Miscellaneous Account number Miscellaneous 1 Account number 1 Miscellaneous Miscellaneous 2 2 Miscellaneous Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N OSR Entry 08 OSR Entry Code 08 Code SCAI OIR Flag n/a SCAI OIR Flag n/a SCAI BNOA n/a SCAI BNOA n/a Guest Term to Closing Message - Guest Term to Closing Message - Voicemail handshake failure Voicemail handshake failure (Console) Billable Call? N Billable Call? N Bill Type: 15 OR 115 Bill Type: 15 OR 115 Call Type: 141 Call Type: 337 Terminating Blank Terminating Blank Number: Number: Billing Number Account Billing Number Account number + 0000 number + 0000 Originating Originating ANI Originating Originating ANI Number Number Termination 02 Termination 02 Method Method Termination 00 Termination 00 Status Status Miscellaneous Account number Miscellaneous 1 Account number 1 Miscellaneous Miscellaneous 2 2 Miscellaneous Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N OSR Entry 08 OSR Entry Code 08 Code SCAI OIR Flag n/a SCAI OIR Flag n/a SCAI BNOA n/a SCAI BNOA n/a Guest Term to Closing Message - Guest Term to Closing Message - Fax handshake failure Fax handshake failure (Console) Billable Call? N Billable Call? N Bill Type: 15 OR 115 Bill Type: 15 OR 115 Call Type: 145 Call Type: 339 Terminating Blank Terminating Blank Number: Number: Billing Number Account Billing Number Account number + 0000 number + 0000 Originating Originating ANI Originating Originating ANI Number Number Termination 02 Termination 02 Method Method Termination 00 Termination 00 Status Status Miscellaneous Account number Miscellaneous 1 Account number 1 Miscellaneous Miscellaneous 2 2 Miscellaneous Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N OSR Entry 08 OSR Entry Code 08 Code SCAI OIR Flag n/a SCAI OIR Flag n/a SCAI BNOA n/a SCAI BNOA n/a Guest Term to Billing Number Guest Term to Billing Number (Console) Billable Call? Y - Billable Call? Y - Match/Merge Match/Merge Bill Type: 15 OR 115 Bill Type: 15 OR 115 Call Type: 142 Call Type: 336 Terminating Billing number Terminating Billing number Number: Number: Billing Number Account number Billing Number Account number number + 0000 number + 0000 Originating Originating ANI Originating Originating ANI Number Number Termination 00 Termination 00 Method Method Termination 257 Termination 257 Status Status Miscellaneous Account number Miscellaneous 1 Account number 1 Miscellaneous Miscellaneous 2 2 Miscellaneous Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N OSR Entry 90 OSR Entry Code 90 Code SCAI OIR Flag N SCAI OIR Flag N SCAI BNOA 7C SCAI BNOA 7C Guest term to programmed Guest term to Programmed Number Number (Console) Billable Call? Y - Billable Call? Y - Match/Merge Match/Merge Bill Type: 15 OR 115 Bill Type: 15 OR 115 Call Type: 140 Call Type: 179 Terminating Programmed Terminating Programmed Number: number Number: number Billing Number Account Billing Number Account number + 0000 number + 0000 Originating Originating ANI Originating Originating ANI Number Number Termination 00 Termination 00 Method Method Termination 257 Termination 257 Status Status Miscellaneous Account number Miscellaneous 1 Account number 1 Miscellaneous Miscellaneous 2 2 Miscellaneous Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N OSR Entry 90 OSR Entry Code 90 Code SCAI OIR Flag N SCAI OIR Flag N SCAI BNOA 7C SCAI BNOA 7C Guest Transfer to Operator Billable Call? N Bill Type: 15 OR 115 Call Type: 140 OR 142 Terminating Number: Transfer Routing Number Billing Number Account number + 0000 Originating Number Originating ANI Termination Method 03 Termination Status 257 Miscellaneous 1 Account number Miscellaneous 2 Miscellaneous 3 OSR-Only Flag N OSR Entry Code 08 SCAI OIR Flag N SCAI BNOA 7C Guest termination to Pager Guest termination to Pager (Console) Billable Call? Y - BDR Only Billable Call? Y - BDR Only Bill Type: 15 OR 115 Bill Type: 15 OR 115 Call

Type: 143 Call Type: 338 Terminating Pager Routing Terminating Pager Routing  
 Number: Number Number: Number Billing Number Account Billing Number Account number  
 + 0000 number + 0000 Originating Originating ANI Originating Originating ANI Number  
 Number Termination 00 Termination 00 Method Method Termination 257 Termination 257  
Status Status Miscellaneous Account number Miscellaneous 1 Account number 1  
 Miscellaneous Miscellaneous 2 2 Miscellaneous Callback number Miscellaneous 3  
 Callback number 3 OSR-Only Flag N OSR-Only Flag N OSR Entry 08 OSR Entry Code 08  
 Code SCAI OIR Flag n/a SCAI OIR Flag n/a

Detail Description Table CWU:

SCAI BNOA n/a SCAI BNOA n/a User termination to voicemail - User termination to  
 voicemail - message retrieval message retrieval (Console) Billable Call? Y -  
 Match/Merge Billable Call? Y - Match/Merge Bill Type: 15 OR 115 Bill Type: 15 OR  
 115 Call Type: 147 Call Type: 340 Terminating Voicemail Terminating Voicemail  
 Number: Number: Routing Routing Number Number Billing Number Account number Billing  
 Number Account number number + 0000 number + 0000 Originating Originating ANI  
 Originating Originating ANI Number Number Termination 00 Termination 00 Method  
 Method Termination 257 Termination 257 Status Status Miscellaneous Account number  
 Miscellaneous 1 Account number 1 Miscellaneous Miscellaneous 2 2 Miscellaneous  
 Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N OSR Entry 80 OSR Entry Code 80  
 Code SCAI OIR Flag Y SCAI OIR Flag Y SCAI BNOA 7C SCAI BNOA 7C User termination to  
 voicemail - administration call Billable Call? N Bill Type: 15 OR 115 Call Type:  
 147 Terminating Number: Voicemail Routing Number Billing Number Account number +  
 0000 Originating Number Originating ANI Termination Method 03 Termination Status  
 257 Miscellaneous 1 Account number Miscellaneous 2 Miscellaneous 3 OSR-Only Flag N  
 OSR Entry Code 08 SCAI OIR Flag Y SCAI BNOA 7C User Call Completion User Call  
 Completion - Console Billable Call? Y - Billable Call? Y - Match/Merge Match/Merge  
 Bill Type: 15 OR 115 Bill Type: 15 OR 115 Call Type: 138 Call Type: 178 Terminating  
 Customer Terminating Customer Number: Number: Input/Speed ANI Input/Speed Dial ANI  
 Dial Billing Number Account Billing Number Account number + 0000 number + 0000  
 Originating Originating ANI Originating Originating ANI Number Number Termination  
 00 Termination 00 Method Method Termination 257 Termination 257 Status Status  
 Miscellaneous Account number Miscellaneous 1 Account number 1 Miscellaneous  
 Miscellaneous 2 2 Miscellaneous Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N  
 OSR Entry 80 OSR Entry Code 80 Code SCAI OIR Flag Y SCAI OIR Flag Y SCAI BNOA 7C  
 SCAI BNOA 7C Subscriber Administration Call Billable Call? N Bill Type: 15 OR 115  
 Call Type: 139 Terminating Number: Blank Billing Number Account number + 0000  
 Originating Number Originating ANI Termination Method 08 Termination Status 257  
 Miscellaneous 1 Account number Miscellaneous 2 Programmed information Miscellaneous  
 3 OSR-Only Flag N OSR Entry Code 08 SCAI OIR Flag n/a SCAI BNOA n/a Subscriber  
 Disconnect - programming or no choice at Subscriber Disconnect - No choice User  
 Menu at User Menu (Console) Billable Call? N Billable Call? N Bill Type: 15 OR 115  
 Bill Type: 15 OR 115 Call Type: 139 Call Type: 340 Terminating Blank Terminating  
 Blank Number: Number: Billing Number Account Billing Number Account number + 0000  
 number + 0000 Originating Originating ANI Originating Originating ANI Number Number  
 Termination 01 Termination 01 Method Method Termination 262 Termination 262 Status  
Status Miscellaneous Account number Miscellaneous 1 Account number 1 Miscellaneous  
 Programmed Miscellaneous 2 Programmed 2 information information Miscellaneous  
 Miscellaneous 3

Detail Description Table CWU:

3 OSR-Only Flag N OSR-Only Flag N OSR Entry 08 OSR Entry Code 08 Code SCAI OIR Flag  
 n/a SCAI OIR Flag n/a SCAI BNOA n/a SCAI BNOA n/a Subscriber Disconnect - call  
 Subscriber Disconnect - call completion completion (Console) Billable Call? N  
 Billable Call? N Bill Type: 15 OR 115 Bill Type: 15 OR 115 Call Type: 138 Call  
 Type: 178 Terminating Blank Terminating Blank Number: Number: Billing Number  
 Account Billing Number Account number + 0000 number + 0000 Originating Originating  
 ANI Originating Originating ANI Number Number Termination 01 Termination 01 Method  
 Method Termination 262 Termination 262 Status Status Miscellaneous Account number  
 Miscellaneous 1 Account number 1 Miscellaneous Programmed Miscellaneous 2

Programmed 2 information information Miscellaneous Miscellaneous 3 3 OSR-Only Flag  
N OSR-Only Flag N OSR Entry 08 OSR Entry Code 08 Code SCAI OIR Flag n/a SCAI OIR  
Flag n/a SCAI BNOA n/a SCAI BNOA n/a User Transfer to Customer Service User  
Transfer to Operator Billable Call? N Billable Call? N Bill Type: 70 Bill Type: 15  
OR 115 Call Type: 52 Call Type: 138 Terminating Transfer Routing Terminating  
Transfer Routing Number: Number Number: Number Billing Number Account Billing  
Number Account number + 0000 number + 0000 Originating Originating ANI Originating  
Originating ANI Number Number Termination 03 Termination 03 Method Method  
Termination 257 Termination 257 Status Status Miscellaneous Account number  
Miscellaneous 1 Account number 1 Miscellaneous Miscellaneous 2 2 Miscellaneous  
Miscellaneous 3 3 OSR-Only Flag N OSR-Only Flag N OSR Entry 08 OSR Entry Code 08  
Code SCAI OIR Flag N SCAI OIR Flag N SCAI BNOA 7C SCAI BNOA 7C \*Account number  
refers to the user's 800/8xx access number \*\*Termination Status is suggested; other  
values may be more appropriate

## Print Request Result(s)

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**Printer Name:** cpk2\_4c32\_gbfrptr

**Printer Location:** cpk2\_\_4c32

**Number of Copies Printed :** 1

- US20020194246: Ok
- US20020194226: Ok
- US20020064149: Ok
- US20020052921: Ok
- US006731625: Ok
- US006335927: Ok

OK

Back to List

First Hit

Generate Collection

Print

L4: Entry 5 of 18

File: PGPB

Dec 19, 2002

DOCUMENT-IDENTIFIER: US 20020194226 A1

TITLE: Internet information aggregation system using programmatic data extraction

Detail Description Paragraph:[0100] Current EventsDetail Description Paragraph:

[0126] The user can monitor various utility services such as electricity, gas, water, Cable TV, telephone, pager, and cellular phone. The information aggregation system makes it easy for the members of a household to maintain all their utility information in one place. All the utility bills can be tracked by the system. The bills can also be paid on line. Customer can monitor the status of home appliances with a click of a button.

Detail Description Paragraph:

[0145] As more and more home appliances become `smart` and report their status through wireless services or through Internet interfaces, the user will be able to control and track the status of the various home appliances over the Internet through the information aggregation system of the invention. With the invention of tiny web servers, and connectivity through many networks, the `smart home` concept may finally become a reality. The following list provides some of the devices that could be monitored and controlled:

Detail Description Paragraph:

[0160] Customers can setup their information aggregation system to monitor their home security system. Depending on the available information from the home security system, various pieces of information will be displayed by the information aggregation system of the invention. The main display will contain a list of devices or zones and their current status. If video monitoring is available there will be video feed to actually display activity from a selected zone. Some of the devices such as Alarm Status System, Intercom and Gate Security can be integrated. The functionality of some of the devices is as follows:

Detail Description Paragraph:

[0163] Monitoring the status of the security system (Armed/Disarmed)

Detail Description Paragraph:

[0174] Current status of the vehicle

Detail Description Paragraph:

[0184] Currently there are many sites that offer very competitive travel booking and ticket purchasing services. They offer many features with offers for best prices or best schedules etc. The information aggregation system does not try to duplicate these services. The information aggregation system of the invention will offer added convenience to an individual traveler. The status of the flight travel can be monitored if a reservation is made online or flight information is entered into the system. Once the travel plan is entered in the system, the information aggregation system of the invention will monitor arrival and departure times for the flight, and notify the user of any change in the schedule.

Detail Description Paragraph:

[0187] Calendar (Personal Information Manager)

Detail Description Paragraph:

[0188] A calendar is provided by the information aggregation system on which the customer can maintain family schedules and set reminders for all-important information. The system also provides updating of the calendar from the existing calendar systems. The entire family schedules can be updated on one calendar so as to identify any conflicts in schedules. For business or group calendar, all the entries of the group can be merged in one calendar so that conflicts can be resolved while scheduling meetings.

Detail Description Paragraph:

[0189] The customer can view his daily, weekly or monthly calendar. He can also view the entire group or family calendar. Tasks to be done can be listed on the main display if desired.

Detail Description Paragraph:

[0190] The customer can synchronize his personal organizers and other schedulers such that any changes made in one place can be reflected in the other scheduler. If he makes a modification at home and he makes another entry at work in a different scheduler, the information aggregation system of the invention can show both entries and help synchronize both or display both. If the customer decides to have a meeting or party then he can send emails directly from the calendar. The calendar will also notify the customer (if the reminder is set on in the calendar) on the pager, phone or by e-mail of important appointments.

Detail Description Paragraph:

[0192] In a group profile the members of the group may have different access levels. The project leader will have permissions to view the schedules of the group members, and will also be allowed to create or schedule meetings and add or delete members. The members can view the group and individual calendar but can only update their personal information. Once a meeting is scheduled, a user has an option to send out an e-mail to all the people who need to attend it. The screen can display a 'to do list' on one side of the screen. A reminder can be set on to notify the members of the group of a meeting. To create or schedule a meeting, the user is guided through a menu of the necessary information such as:

Detail Description Paragraph:

[0198] There will also be an option to create a group, such that instead of choosing the individual names and adding them to the list of attendees, the group name can be selected. If there is a general lecture or meeting, the calendar for many groups could be updated. There could be another screen which will display the event information. This page can be personalized to display the events that need to be tracked. A list of events will be provided. The user will also be allowed to set reminders for important events. In a personal profile, the access permission can be applied based on the head of the family. The children could have a lower access level.

Detail Description Paragraph:

[0200] The information aggregation system customers are allowed to track incoming as well as out going packages. The customer can obtain information regardless of who the package carrier is (i.e. FedEx, UPS, etc.). The customer can also obtain information regarding the rates of all the different cargo systems. Customers will also be able to locate the offices nearest to them. One of the screens will display information of the area covered by the carrier. This information can be presented in a map format. The user is allowed to enter the zip code from where a package starts, and in response the system displays the number of days it will take the package to reach its destination and the cost of various shipping options. The customer can enter the tracking number and the carrier. Once these values are

entered, the status of the package will be displayed. This feature can be used for both domestic and business purposes.

Detail Description Paragraph:

[0237] Status (mobile or stationary)

Detail Description Paragraph:

[0240] Status

Detail Description Paragraph:

[0241] The movement of the truck can be displayed on a map. The map will have capabilities of zooming in and zooming out. The user can view the last and current status/location of the trucks or trailers. There will be another table which has a "to do" list of all tasks that need to be accomplished. The system can also provide a chart with information regarding the speed of the vehicle over a period of time (day, month and year). This chart will display the maximum speed and average speed of the vehicle. It will also display the miles traveled per gallon. The utilization and expenditure can be displayed in tabular column or as a graph. Customers can also obtain a list of the office locations and contact information.

Detail Description Paragraph:

[0243] The information aggregation system makes order tracking easy for customers. As more and more services and goods are purchased on line, on line suppliers are providing on line information about the status of orders. See e.g. [www.onsale.com](http://www.onsale.com). The information aggregation system functions as a central control center where the user can track all of his orders from the view page 20, so that the user does not have to go to various sites to gather that information. Next level of functionality will be for the order tracking system to integrate with back office systems for inventory management and billing and payment services. Some of the information provided could include:

Detail Description Paragraph:

[0247] Status (oh hold, shipped, in transit, delivered)

Detail Description Paragraph:

[0252] The information aggregation system of the invention can also provide personal information about where the customer does business. From time to time, users will have customer service requests for many of their service providers. It is often very difficult to locate a customer service contact, whether by telephone, letter, or e-mail. The information aggregation system can simplify this process by offering all of this information in one place. The system goes beyond offering information about where to go for customer service, and becomes a customer service center from the user's point of view. Today's order tracking and customer service systems are designed from the point of view of service providers for them to track transactions. The information aggregation system changes this paradigm by offering a customer service center for users that tracks all of a user's customer service requests and keeps him updated on the status or progress of his given request. Some of the information provided could be:

Detail Description Paragraph:

[0256] Status (on hold, rma issued, credit issued, in process, resolved, send more info)

Detail Description Paragraph:

[0276] Current status

Detail Description Paragraph:

[0282] The detail profile will have in-depth information regarding the status of the patient, such as:

Detail Description Paragraph:

[0293] Status of the patient

Detail Description Paragraph:

[0313] Current status

Detail Description Paragraph:

[0331] A customer can use the information aggregation system to track the status of equipment, such as office equipment or vehicles. This feature will allow both the customer and the service organization to monitor and service the equipment. The equipment has embedded controllers and communication devices. These devices cannot only monitor their own status, but can also provide information regarding any repair or services needed. All these devices will have a display on the systems, which will display the information. The customer and the equipment manufacturer can view the information on a screen on the information aggregation system. For example, the status of printers, fax machines and scanners can be displayed.

Detail Description Paragraph:

[0332] Each vehicle will have a screen to display the status of the vehicle, including information such as:

First Hit

Generate Collection

Print

L4: Entry 4 of 18

File: PGPB

Dec 19, 2002

DOCUMENT-IDENTIFIER: US 20020194246 A1

TITLE: Context dependent calendarSummary of Invention Paragraph:

[0002] The present invention relates generally to the field of computer software and, more particularly, to computer calendars.

Summary of Invention Paragraph:

[0005] One of the features provided by computers and/or through the Internet are calendars and other personal organizational lists. These calendars, as well as other products, provide users with means for organizing the various aspects of their lives. For example, items can be entered into these products such that visual, auditory, or other reminders are presented to the user at appropriate times. These products also allow users to avoid scheduling conflicts as well as many other numerous conveniences. However, the only user specific information that current electronic calendars provide users is information supplied by the user. It would be desirable, however, to add value to these products by providing calendars that supply information that may be of value to specific individuals that is in addition to information supplied by the user.

Brief Description of Drawings Paragraph:

[0011] FIG. 4 depicts a block diagram of a calendar system for providing a context dependent calendar in accordance with the present invention;

Brief Description of Drawings Paragraph:

[0012] FIG. 5 depicts a pictorial diagram of a calendar display in accordance with the present invention; and

Brief Description of Drawings Paragraph:

[0013] FIG. 6 depicts a process flow and program function for providing information to a user based on the content of an electronic calendar in accordance with the present invention.

Detail Description Paragraph:

[0026] With reference now to FIG. 4, a block diagram of a calendar system for providing a context dependent calendar is depicted in accordance with the present invention. Calendar system 400 may be implemented in distributed data processing system 100 in FIG. 1 either entirely on an individual system, such as, for example, client 108, or distributed among two or more systems. Calendar system 400 includes a calendar display 410 for displaying an electronic calendar to a user, a calendar information (CI) storage unit 402, a calendar information extracting (CIE) unit 404, a calendar information analyzing (CIA) unit 406, and an associatable information (AI) database 408.

Detail Description Paragraph:

[0027] CI storage unit 402 stores information entered by a user related information such as, for example, scheduling, appointments, reminders, etc. This information may be calendar entries that can be based upon established templates, such as, for example, a wedding calendar template, or upon templates that can be created by a user or abstracted out of existing calendar entries. This information may be

associated with calendar dates. CIE unit 404 searches the information stored in CI storage unit 402 including template entries and retrieves user entries and correlated dates as well as other information, such as holidays or days of personal importance such as birthdays. The extracted information is forwarded by CIE unit 404 to CIA unit 406. CIA unit 406 analyzes the extracted information to determine whether any of the information correlates with any key words in AI database 408. If a keyword is matched, then information associated with the keyword in the AI database 408 is extracted by CIA unit 406 and sent to CI storage unit 402 such that when the user displays the calendar on calendar display 410, the information associated with the keyword from the AI database 408 is displayed as well.

Detail Description Paragraph:

[0028] For example, if a calendar entry for a specific date contains a user entry reminding the user to pickup orange juice on the way home from work, the CIA unit 406 may discover entry containing orange juice and retrieve an advertisement for a specific brand of orange juice from AI database 408. This associated information along with instructions concerning the time, placement, and manner of presenting the associated information to the user may then be sent back to CI storage unit 402 and stored until the calendar is displayed on calendar display 410. When the calendar is displayed to the user on calendar display 410, the associated information, which in the orange juice example is an advertisement for the specific brand of orange juice, is displayed as well via calendar display 410. If the calendar is provided to the user by a third party, entities supplying the associated information may be required to pay a fee to have their information, such as advertisements, provided to the user.

Detail Description Paragraph:

[0029] The CIA 406 may also be configured to have certain advertisements displayed depending on the time of day, day of the week, or date that the user views the calendar. For example, if the user views the calendar at 3:00 am, the display may include an advertisement for a sleeping pill. If, however, the time of day is 8:00 am, the display may include an advertisement for a specific brand of coffee. If a holiday or birthday or other special day is approaching, the CIA 406 may have advertisements related to the special day displayed along with the calendar.

Detail Description Paragraph:

[0031] The information in AI database 408 that CIA unit 406 chooses to display may also be a photograph, picture or other graphic of a person or object associated with the day of the week, date, or time. This may be particularly useful for remembering birthdays, anniversaries, etc. For example, a photo of the user's spouse may appear on or before an anniversary or birthday, or alternatively, layered over the date on the calendar of the special day for which a reminder is needed. In such case, AI database 408 may be located on the user's data processing system rather than on a remote system that may be accessible to others, thus insuring some level of privacy for the user's private information.

Detail Description Paragraph:

[0033] With reference now to FIG. 5, a pictorial diagram of a calendar display is depicted in accordance with the present invention. Video display terminal (VDT) 508 contains a display 506 presenting a calendar 504 along with associated information 502. The calendar entry for Apr. 4 contains a reminder 510. Continuing with the orange juice example, the reminder 510 may read "pickup orange juice on the way home from work." Thus, on Apr. 4, the calendar 504 may be displayed along with an advertisement for a specific brand of orange juice as the associated information 502. Thus, by analyzing the calendar entries and other user information, the present invention provides advertisements or other information to the user based on the content of the user information.

Detail Description Paragraph:

[0034] In other embodiments, rather than presenting the associated data proximate

to the calendar as illustrated in FIG. 5, the associated data is presented to the user before the calendar is presented to the user, thus requiring the user to acknowledge the associated data prior to accessing the electronic calendar.

Detail Description Paragraph:

[0035] In yet another embodiment, the associated data is presented over various dates on the calendar. Thus, for example, the box representing Apr. 4 may have an advertisement for a specific brand of milk while the box representing Apr. 11 may have a photograph of the user's spouse indicating that Apr. 11 is the spouse's birthday. Thus, in some embodiments, more than one associated data entry may be presented to the user.

Detail Description Paragraph:

[0036] Also, in other embodiments, the associated data presented to the user with the calendar may change with time. Thus, a user may view the electronic calendar and have the information presented over, for example, the box representing Apr. 4 change from, for example, an advertisement for milk to an advertisement for toothpaste.

Detail Description Paragraph:

[0039] VDT 508, calendar 504, and associated information 502 are merely examples of one embodiment for presenting a calendar and other useful information to a user based on the content of user calendar entries. The calendar may be displayed on any of a variety of displays and data processing systems including, for example, the calendar may be displayed on a personal digital assistant (PDA), a cell phone, a television, or printed out via a printer. Other types of electronic devices may be used as well. Also, in other embodiments, the calendar may be presented to the user using audio, visual, multimedia, tactile, and/or olfactory devices.

Detail Description Paragraph:

[0040] With reference now to FIG. 6, a process flow and program function for providing information to a user based on the content of an electronic calendar is depicted in accordance with the present invention. To begin, the electronic calendar data is accessed and user specific and other context information is extracted from the data (step 602). The contents of the extracted information is analyzed to determine characteristics (step 604) and a determination is made as to whether any of these characteristics match any data in a database of associatable information, by for example, determining whether the extracted information matches any keywords associated with associatable information (step 606). For example, an advertisement for a specific brand of orange juice may have keywords that include, for example, juice, orange juice, drink, and breakfast. If any of the extracted information includes one of these words, then an advertisement for that brand of orange juice may be selected. If none of the extracted information is correlated with associatable information, then the process ends. However, if one or more characteristics of the extracted data match any of the associatable information, then one or more of the associatable information are selected (step 608) and presented, with the calendar, to the user (or other user(s)) when the calendar is requested by the user. Thus, advertisers may target advertisements to specific users who have scheduled events that indicate that they may be more receptive to the advertisement than the average consumer.

Detail Description Paragraph:

[0041] With reference now to FIGS. 7 and 8, pictorial diagrams of a calendar depicting an alternative embodiment of the present invention in which event reminder information is modified based on other occurrences. Video display terminal (VDT) 708 contains a display 706 presenting a calendar 704. Calendar 704 contains two reminders, reminder 1 710 and reminder 2 712 for reminding a user of important events. A calendar system, such as, for example, calendar system 400 in FIG. 4, may analyze the user's reminders 710 and 712 and extract characteristics that may be used in connection with other events, data, or other event reminders to modify the

reminders 710 and 712. Thus, in the example depicted in FIG. 8, the calendar system has analyzed the user event reminder information 710 and 712 and determined that reminder 1 710 should be modified. Thus, in FIG. 8, reminder 1 710 has been replaced with modified reminder 1 810. The modified reminder 1 810 may relate to, for example, weather information, traffic information, airline departure information, train departure information, bus departure information, meeting conflicts, meeting overruns, personal emergencies, public emergencies, sales and promotions, and acts of nature. The modified reminder 1 810 may relate to, for example, rescheduling an event, rescheduling a reminder notification, changing an event location, changing event participants, changing the event medium (i.e. from face to face to phone), changing event contact information, canceling an event, substituting an alternate event (i.e. if two meetings scheduled simultaneously, override the original high priority meeting), and automatically scheduling a new event (i.e. if the user's 5:00 p.m. meeting is canceled, block off the time and buy theater tickets; or if there is a special promotion on theater tickets for a play the user wants to see, cancel the last meeting of the day, and book theater tickets instead).

Detail Description Paragraph:

[0042] To aid in understanding this embodiment, consider the following example. Suppose that the user had a meeting scheduled for 3:00 p.m. to 6:00 p.m. on Apr. 4 with a reminder represented by reminder 1 710. However, further suppose that the user had indicated that because of an airline reservation on a flight scheduled to depart at 6:00 p.m., which was also scheduled in the calendar 704 (but not shown in the depicted example), that the user must leave the meeting at 4:00 p.m. in order to make the flight. Further suppose that the calendar system is connected to the airline scheduling system and monitors the status of the scheduled flight. This could be accomplished directly by the calendar system through, for example, the connecting to the Internet and accessing a web page or database of flight information, or indirectly by the calendar system through receipt of e-mail alerts from the airline scheduling system. If the flight on which the user is scheduled is listed as delayed until 8:00 p.m., the calendar system automatically updates the calendar 704 with modified reminder 1 810 that indicates that the user may now stay until the completion of the meeting rather than leaving early, since the user will still have time after the scheduled completion of the meeting to arrive at the airport to make the flight.

Detail Description Paragraph:

[0043] As another example, consider that situation in which a user has a meeting scheduled for 3:00 p.m. to 6:00 p.m. on Apr. 4 indicated by reminder 1 710. Suppose that another the user is made aware of another event, such as, for example, a sporting event, that the user would like to attend, but that conflicts with the scheduled meeting. The user could enter an alternative schedule that the user finds desirable and, if the calendar system receives an indication, for example, via e-mail, that the person with which the user has the scheduled meeting has canceled the meeting, the user's calendar is automatically updated to show the sporting event as the new modified reminder 1 810.

Detail Description Paragraph:

[0044] With reference now to FIG. 9, a process flow and program function for automatically updating event reminder information in a user calendar is depicted in accordance with the present invention. To begin, the calendar system accesses the calendar data and extracts user specific information, such as, for example, event reminder information (step 902). The calendar system then analyzes extracted information to determine characteristics of the user specific information, such as, for example, the time of a scheduled event or the type of event (step 904). The system then determines whether the characteristics match any data in a database of associatable data or other user specific information (step 906). If characteristics of the extracted data are correlated with other data, then the calendar system modified the user specific information (step 908). For example, the calendar system

may notice that some scheduled events overlap with other scheduled events. If the system determines that one of the events has been canceled or delayed, for example, via an e-mail alert, the calendar system updates or modifies the scheduled entries to reflect the changes. The calendar system then presents the calendar with modified user specific information when the calendar is requested by the user (step 910). If, in step 906, the calendar system determines that there are no updates, then the process ends.

Detail Description Paragraph:

[0045] Although the present invention has been described primarily with reference to a traditional electronic calendar, the present invention may be implemented with other electronic personal organizational listings or arrays, such as, for example, an electronic diary, television guide listing, a scheduler, a to-do list, a day planner, a reminder listing, a radio broadcast listing, a movie listing, an entertainment listing, a list of menu items, and specialized calendars, such as pregnancy, diet, motivational, and celebrity calendars.

CLAIMS:

4. The method as recited in claim 3, wherein the event reminder information is correlated to a calendar and the related output information is displayed to the user proximate to a display of the calendar.

5. The method as recited in claim 3, wherein the event reminder information is correlated to a calendar and the related output information is displayed prior to displaying the calendar.

6. The method as recited in claim 3, wherein the event reminder information is correlated to a calendar and the related output information is displayed such that it occludes at least a portion of at least one date area on the calendar, wherein the date corresponds to the event reminder information.

13. The method as recited in claim 1, wherein the event reminder information is associated with one of a calendar, a television guide listing, a schedule, a to-do list, a day planner, a reminder listing, a radio broadcast listing, a movie listing, an entertainment listing, and a list of menu items.

17. The computer program product as recited in claim 16, wherein the event reminder information is correlated to a calendar and the related output information is displayed to the user proximate to a display of the calendar.

18. The method as recited in claim 16, wherein the event reminder information is correlated to a calendar and the calendar is displayed in response to a user selecting the related output information displayed prior to displaying the calendar.

19. The computer program product as recited in claim 16, wherein the event reminder information is correlated to a calendar and the related output information is displayed such that it occludes at least a portion of at least one date area on the calendar, wherein the date corresponds to the event reminder information.

29. The system as recited in claim 22, wherein the event reminder information are calendar entries and further comprising: a calendar template for entering calendar entries.

32. The method as recited in claim 30, wherein said modifications comprise at least one of rescheduling an event, rescheduling a reminder notification, changing an event location, changing event participants, changing the event medium, changing event contact information, canceling an event, substituting an alternate event, and automatically scheduling a new event.

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TITLE: Internet based personal information manager

Summary of Invention Paragraph:

[0002] The following terms are used in the present application with their following, current commonly accepted meaning.

Summary of Invention Paragraph:

[0004] A "client", in the context of the present invention, is a computer program that allows a user to communicate with a computer server and to use services provided by the computer server. Current examples of clients include Web browsers such as Netscape Navigator and Microsoft Internet Explorer.

Summary of Invention Paragraph:

[0006] An "Instant Messaging agent" or IM agent is a computer program that allows two or more users to communicate in real time by sending and receiving written messages using an electronic communication device such as a computer, a Personal Digital Assistant (PDA) or a cellular telephone connected to a communications network. Current examples of instant messaging agents include: "AOL Instant Messenger", "MSN Messenger", "ICQ" and "Yahoo! Messenger". The IM agent receives a user's input and when activated assembles an outbound message that contains a screen name of the user.

Summary of Invention Paragraph:

[0007] "Personal Information Managers" (PIM's), as a concept, have existed since the beginning of human history. Whether it be written on papyrus, stored in a person's memory or organized in a database, it is a collection of records that permit, management of appointments, of people's name and of contact information, and of reminders of things to do.

Summary of Invention Paragraph:

[0014] The Slotznick patent discloses a database system which uses natural language commands for accomplishing tasks using several communication media, including the Internet. The system can share both its learned and preprogrammed databases with other software such as schedulers and contact managers.

Summary of Invention Paragraph:

[0016] The Ren patent application describes a remotely accessible and maintained web based database. A described preferred embodiment relates to a web based customer list database. This system maintains the database by notifying customers of the current information that the database contains about them and recording their feedback.

Summary of Invention Paragraph:

[0017] The Berenson patent application discloses a web-driven calendar updating system which has a database accessible via the Internet, that allows the user to create calendar reminders for scheduled upcoming events. This system allows for updating of the calendar by the database if a change occurs in the schedule.

Brief Description of Drawings Paragraph:

[0055] FIG. 5 is a schematic flow diagram of a computer program illustrating the flow of information, and tests performed, in an appointment manager according to the present invention.

Brief Description of Drawings Paragraph:

[0056] FIG. 6 is a schematic flow diagram of a computer program illustrating the flow of information, and tests performed, in a reminder manager according to the present invention.

Detail Description Paragraph:

[0094] In use an Appointment/Reminder Manager 315 allows user 100 to record, delete or retrieve personal appointments, and to set, check or delete reminders. Reminders trigger a delayed command in remote computer 120, shown in FIG. 1, that sends a message back to user 100 via IM 118' at a pre-set time.

Detail Description Paragraph:

[0095] User 100 enters future appointments by sending to chat-bot 125 a message of a type such as:

Detail Description Paragraph:

[0097] "I have a <TYPE> appointment on <TIME/DATE>".

Detail Description Paragraph:

[0099] "What are <TIME/DATE> appointments?", or

Detail Description Paragraph:

[0101] where <NAME>, <TIME/DATE> and <TYPE> represent strings of characters associated with variables of type, respectively NAME of person to meet, TIME and/or DATE of appointment, and TYPE of appointment.

Detail Description Paragraph:

[0103] "What are Monday's appointments?", or

Detail Description Paragraph:

[0105] Appointment/Reminder Manager 315 also sends timely reminders to user 100 about meetings and appointments stored as appointments in the PIM, or just about anything that has to be done or remembered without being necessarily associated with a stored appointment. To set a reminder user 100 just needs to send a message to chat-bot 125 such as:

Detail Description Paragraph:

[0109] "Remind me tomorrow at noon that I have a dinner appointment with Sally at 6:00 pm", or

Detail Description Paragraph:

[0111] In the first example hereinabove, "Remind me" is recognized by chat-bot 125 as an Appointment/Reminder Manager template, and "tomorrow at noon" is then recognized as a TIME/DATE variable; "dinner appointment" as a TYPE variable; "Sally" as a NAME variable; and "6:00 pm" as a TIME/DATE variable. A command associated with the template "remind me" and using variables "tomorrow at noon", "dinner appointment", "Sally" and "6:00 pm" is sent by Appointment/Reminder Manager 315 to update a portion 140 of database 130, corresponding to user 100. A more detailed description of Appointment/Reminder Manager 315 is given hereinbelow with reference to FIG. 5 and FIG. 6.

Detail Description Paragraph:

[0128] A Weather Reports module 330 provides weather forecast for any location in the United States of America. Weather Reports module 330 can also be modified on demand to query remote web sites that provide current weather information or weather forecast for other parts of the world. User 100 can get the current weather

or weather forecast for any city by asking chat-bot 125 a question such as, for example:

Detail Description Paragraph:

[0140] An International Time module 335 provides the current date and time for any location in the world. User 100 can ask chat-bot 125 what time it is in most major cities and in all countries around the world. International Time module 335 also calculates what time it is in a first given place when it is a certain time in a second given place by asking:

Detail Description Paragraph:

[0208] "Help appointment"

Detail Description Paragraph:

[0212] The input is then parsed into words by process box 410 to identify the type and nature of the input message. Process box 410 branches into three types of action depending on the type of the input. The three types of action identifiable by process box 410 in a currently preferred embodiment of the invention are: inserting a contact information, getting a contact information and deleting a contact information.

Detail Description Paragraph:

[0213] A first type of action described in FIG. 4 is "inserting a contact information". A process box 420 of the program identifies the variables that the User Contact Manager needs to insert the contact information.

Detail Description Paragraph:

[0219] Process box 420 is connected to a decision box or test 422. Test 422 checks whether the message sent by user 100 is about a new contact or about a contact already present in a list of contacts of user 100 stored in database portion 140. If the contact is a new contact, command 424 is executed to create a new record in database portion 140 for said new contact. Command 426 is then executed to send a Structured Query Language (SQL) call which inserts the contact information in database 130. If the contact is already listed in database portion 140, then command 426 is immediately executed to insert the contact information in database 130.

Detail Description Paragraph:

[0221] A second type of action described in FIG. 4 is "getting a contact information". A process box 430 of the program identifies the variables that the User Contact Manager uses to get a contact information appointment. For example, in an input message such as:

Detail Description Paragraph:

[0224] As in the case of a "inserting a contact information" command, the output returned by database 130 for a "getting a contact information" command is converted into a natural language sentence by process 450 and sent back by command 452 to personal computer 105 of user 100, via IM 118'.

Detail Description Paragraph:

[0225] A third type of action described in FIG. 4 is "deleting a contact information". A process box 440 of the program identifies the variables that the User Contact Manager uses to delete a contact information appointment. For example, in an input message such as:

Detail Description Paragraph:

[0228] As in the case of a "inserting a contact information" command or a "getting a contact information" command, the output returned by database 130 for a "deleting a contact information" command is converted into a natural language sentence by process 450 and sent back by command 452 to personal computer 105 of user 100, via

IM 118'.

Detail Description Paragraph:

[0229] With reference now to FIG. 5, there is depicted a schematic flow diagram representing the processes and information flow in an Appointment Manager module according to the present invention.

Detail Description Paragraph:

[0230] An input message is received via IM 118' from personal computer 105 of user 100 at interface 500. Interface 500 is connected to a process box 505 that matches the input message with a predetermined appointment template as described in FIG. 2 and FIG. 2a, where a portion of the program performs spell-checking and template-matching operations.

Detail Description Paragraph:

[0231] The input is then parsed into words by process box 510 to identify the type and nature of the input message. Process box 510 branches into three types of action depending on the type of the input. The three types of action identifiable by process box 510 in a currently preferred embodiment of the invention are: setting an appointment, getting an appointment and deleting an appointment. In another embodiment of the invention, other actions could be added to the program such as, for example: modifying an appointment, make an appointment a daily, or weekly, or monthly appointment.

Detail Description Paragraph:

[0232] A first type of action described in FIG. 5 is "setting an appointment". A process box 520 of the program identifies the variables that the Appointment Manager needs to set the appointment. These variables are: a date, a time, a person to meet, a kind of appointment and an adjective that qualifies the person to be met. For example, an input message such as:

Detail Description Paragraph:

[0234] is parsed into words by process box 510, and process box 520 then identifies "tomorrow" as a date; "at noon" as a time; "wife" as the person to meet; "a fundraiser lunch" as a kind of appointment and "my" as an adjective that qualifies "wife".

Detail Description Paragraph:

[0236] The date and time in machine readable format are used in decision box 524 to check whether an appointment with an identical date and time, an identical person to meet and an identical nature of the appointment is already recorded in portion 140 of database 130.

Detail Description Paragraph:

[0237] If decision box 524 yields a positive answer, i.e. if an appointment with identical date, time, person to meet and nature of the appointment is already present in portion 140 of database 130, then the program branches directly to a process box 538, which converts an output from database 130 into a natural language sentence. This natural language sentence is then sent by command 550 as a response back to personal computer 105 of user 100, via IM 118'.

Detail Description Paragraph:

[0238] If decision box 524 yields a negative answer, i.e. if no appointment with an identical date and time is present in portion 140 of database 130, then the program branches to process box 526, where an SQL call is assembled with the identified variables and sent to database 130 to add a new appointment. Process box 526 is again connected to process box 538, which in turn feeds into command box 550. Command 550 sends a natural language sentence representing the output of database 130 converted by process 538, to personal computer 105 of user 100, via IM 118'.

Detail Description Paragraph:

[0239] A second type of action described in FIG. 5 is "getting an appointment". A process box 530 of the program identifies the variables that the Appointment Manager uses to get an appointment. These variables include: a date, a time, a person to meet, a kind of appointment and an adjective that qualifies the person to be met. For example, in an input message such as:

Detail Description Paragraph:

[0240] "What appointments do I have tomorrow"

Detail Description Paragraph:

[0241] process 530 identifies "tomorrow" as a relative date that is then processed by process 532 to convert it into a machine readable absolute date. This absolute date is then used in an SQL call sent by process 534 to database 130 to retrieve all appointments corresponding to the converted absolute date.

Detail Description Paragraph:

[0244] As in the case of a "setting an appointment" command, the output returned by database 130 for a "getting an appointment" command is converted into a natural language sentence by process 538 and sent back by command 550 to personal computer 105 of user 100, via IM 118'.

Detail Description Paragraph:

[0245] A third type of action described in FIG. 5 is "deleting an appointment". A process box 540 of the program identifies the variables that the Appointment Manager uses to delete an appointment. These variables include: a date, a time, a person to meet, a kind of appointment and an adjective that qualifies the person to be met. For example, in an input message such as:

Detail Description Paragraph:

[0246] "Delete all the appointments I have tomorrow"

Detail Description Paragraph:

[0247] process 540 identifies "tomorrow" as a relative date that is then processed by process 542 to convert it into a machine readable absolute date. The absolute date in machine readable format is used in decision box 544 to check whether any appointment with an identical date is recorded in portion 140 of database 130.

Detail Description Paragraph:

[0248] If decision box 544 yields a negative answer, i.e. if no appointment with an identical date is present in portion 140 of database 130, then the program branches directly to process box 538, which converts an output from database 130 into a natural language sentence. This natural language sentence is then sent by command 550 as a response back to personal computer 105 of user 100, via IM 118'.

Detail Description Paragraph:

[0249] If decision box 544 yields a positive answer, i.e. if an appointment with an identical date is present in portion 140 of database 130, then the program branches to process box 546, where this absolute date is used in an SQL call sent by process 546 to database 130 to delete all appointments corresponding to the converted absolute date.

Detail Description Paragraph:

[0250] As in the case of a "setting an appointment" command or a "getting an appointment" command, the output returned by database 130 for a "deleting an appointment" command is converted into a natural language sentence by process 538 and sent back by command 550 to personal computer 105 of user 100, via IM 118'.

Detail Description Paragraph:

[0251] With reference now to FIG. 6, there is depicted a schematic flow diagram

representing the processes and information flow in a Reminder Manager module according to the present invention.

Detail Description Paragraph:

[0252] The Reminder Manager module performs all the functions performed by the Appointment Manager module and additionally it identifies two more variables that are used to determine a date and a time at which a reminder must be sent to user 100. The Reminder Manager module also uses a conventional Unix command called "at" to schedule the sending of reminder messages via IM 118'. However, any other appropriate task scheduler can be used to perform the scheduled sending of reminder messages.

Detail Description Paragraph:

[0253] As in the case of the Appointment manager, an input message is received at an interface 600, which is connected to a template-matching process 605, which in turn is connected to a word-parsing process 610. Process 610 branches into three types of actions similar to the three types of action described for the Appointment manager module. In the case of the Reminder Manager module according to a currently preferred embodiment of the invention, the three types of action, as shown in FIG. 6 are: setting a reminder, getting a reminder and deleting a reminder. Other types of action can be added on command such as, for example: modifying a reminder, setting a recurrent or periodic reminder.

Detail Description Paragraph:

[0254] Process boxes 620-624 describe how the variables for a "Set Reminder" command are identified, and the date and time variables are converted into a machine readable format that is used to send an SQL call to update database 130. Process 625 then launches the delayed sending of a reminder message, using the Unix "at" command, and process 636 converts an output from database 130 into a natural language message that is sent by command 638 back to personal computer 105 of user 100, via IM 118'.

Detail Description Paragraph:

[0255] A "Delete Reminder" command follows a process flow, as shown by items 640-645 on FIG. 6, similar to the above described process flow of the "Set Reminder" command, with the difference that the SQL call to database 130 deletes a reminder instead of creating the reminder, and that the call to the Unix "at" command stops the delayed sending of the reminder instead of launching it. The conversion of the output from database 130 by process 636 and the sending of a message by command 638 are then performed by a procedure identical to the procedure used for the "Set Reminder" command.

Detail Description Paragraph:

[0256] A "Get Reminder" command follows a process flow, as shown by items 630-634 on FIG. 6, similar to the above described process flow of the "Set Reminder" command and the "Delete Reminder" command, with the difference that the SQL call to database 130 retrieves a reminder instead of creating or deleting the reminder, and no call is made to the Unix "at" command. The conversion of the output from database 130 by process 636 and the sending of a message by command 638 are then performed by a procedure identical to the procedure used for the "Set Reminder" command and the "Delete Reminder" command.

Detail Description Paragraph:

[0266] In use, user 100 can store, modify, delete and receive contact information, appointment and reminders stored in remote computer 120 and/or database 130 by sending and receiving messages to and from chat-bot 125 through IM 118, running on personal computer 105, and through IM 118', running on remote computer 120. An example of a typical session of communication between user 100 and chat-bot 125 is shown in Appendix C incorporated hereinbelow, where user 100's input lines start with a leading screen-name "exampleuser100" and chat-bot 125's responses start with

a leading screen-name "MyOwnBuddy".

Detail Description Paragraph:

[0267] In a currently preferred embodiment of the present invention, IM 118 and IM 118' are an instant messaging application freely provided by America Online and called "AOL Instant Messenger" or simply "AIM". Chat-bot 125 is recognized by AIM as just a normal subscriber of AIM, and the screen-name currently used by chat-bot 125 on AIM is "MyOwnBuddy" (as already mentioned above). However, chat-bot 125 can easily be adapted to be used through any other Instant Messaging service and any screen-name can be set to represent chat-bot 125 on said Instant Messaging service. Other examples of Instant Messaging services currently available include "ICQ" (also provided by America Online), "MSN Messenger" (provided by Microsoft Corporation), and "Yahoo! Messenger" (provided by Yahoo! Inc.).

CLAIMS:

1. A personal information management system for remote storage, management and retrieval of personal information comprising, in combination: a computer apparatus connected to a communications network; a chat-bot software application (chat-bot) operational with said computer apparatus; a database stored on a computer storage medium connected to said computer apparatus and directly accessible to said chat-bot; a "Contacts Manager" module operational with said computer apparatus and directly accessible to said chat-bot for storage, management and retrieval of personal contacts information stored on said database; and an instant messaging agent using said communications network, said instant messaging agent allowing a user to communicate with said chat-bot and interact with said chat-bot in a way identical to the way the user would interact with a human person using the instant messaging agent.

8. A personal information management system as claimed in claim 7 wherein said chat-bot comprises an "Appointment Manager" module adapted for storage, management and retrieval of personal appointments information stored on said database.

9. A personal information management system as claimed in claim 8 wherein said chat-bot further comprises a "Reminder Manager" module adapted for storage, management and retrieval of personal reminders information stored on said database.